



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY  
GOVERNOR

LYNDO TIPPETT  
SECRETARY

March 5, 2008

U. S. Army Corps of Engineers  
Regulatory Field Office  
151 Patton Avenue, Room 208  
Asheville, NC 28801-5006

ATTENTION: Mr. Steve Lund  
NCDOT Coordinator

Dear Sir:

SUBJECT: **Nationwide Permit 23 Application** for the replacement of Bridge No. 377 over Waxhaw Creek on SR 1103 (Maggie Robinson Road) in Union County. Federal Aid Project No. BRZ-1103(16), WBS Element 33815.1.1, Division 10, TIP No. B-4649.

Please see the enclosed U.S. Fish and Wildlife Service Concurrence Letter, permit drawings and design plans for the above referenced project. A Programmatic Categorical Exclusion (signed 6/14/2007) has been completed and distributed for this project. Additional copies are available upon request. The North Carolina Department of Transportation (NCDOT) proposes to replace the 41-foot, single-span bridge with a new 95-foot, single-span bridge over Waxhaw Creek. The new bridge will be replaced at the location of the existing bridge, and traffic will be maintained on an off site detour. There will be <0.01 acre of wetland impact for this project, and no permanent impacts to Waxhaw Creek.

**IMPACTS TO WATERS OF THE UNITED STATES**

General Description:

The water resource spanned for project B-4649 is Waxhaw Creek. Waxhaw Creek is located in the Catawba River Basin and is approximately 25 feet wide and 1-2 feet deep within the project area. The DWQ Index number for this section of Waxhaw Creek is 11-139, and the Hydrological Cataloguing Unit is 03050103. The DWQ classifies Waxhaw Creek as "C". Within the project area, Waxhaw Creek is not listed as a 303(d) water. There are no 303(d) waters within a mile downstream of the project area. No High Quality Waters (HQW), Water Supplies (WS-I or WSII), or Outstanding Resource Waters (ORW), occur within one mile of the project study area.

Permanent Impacts:

There will be <0.01 acre of riverine wetland impact due to the wider shoulders requiring a ditch to be relocated on the east side of the project. There will be no permanent impacts to Waxhaw Creek for this project.

MAILING ADDRESS:  
NC DEPARTMENT OF TRANSPORTATION  
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS  
1598 MAIL SERVICE CENTER  
RALEIGH NC 27699-1548

TELEPHONE: 919-715-1334  
FAX: 919-715-5501

WEBSITE: [WWW.NCDOT.ORG](http://WWW.NCDOT.ORG)

LOCATION:  
PARKER LINCOLN BUILDING,  
2728 CAPITAL BLVD.  
RALEIGH NC 27604

Temporary Impacts:

There will be no temporary jurisdictional impacts associated with this project.

Utility Impacts:

There will be no jurisdictional impacts associated with relocation of utilities for this project.

Bridge Demolition:

Bridge No. 377 was built in 1962. The bridge is constructed of timber and steel and should be removed with without any temporary fill falling into Waxhaw Creek during demolition. All guidelines for bridge demolition and removal will be followed in addition to Best Management Practices (BMPs) for the Protection of Surface Waters and BMPs for Bridge Demolition and Removal.

**FEDERALLY PROTECTED SPECIES**

Plants and animals with federal classifications of Endangered (E), Threatened (T), Proposed Endangered (PE) and Proposed Threatened (PT) are protected under provisions of Section 7 and Section 9 of the Endangered Species Act of 1973, as amended. As of January 31, 2008, the United States Fish and Wildlife Service (USFWS) lists three federally protected species for Union County (Table1).

This project is located in designated critical habitat for the Carolina heelsplitter (*Lasmigona decorata*). An onsite meeting occurred November 7, 2006 with NCDOT, USFWS, and NCWRC to examine bridge structures, constructability, and demolition. Per discussions at this meeting, due to the large amounts of sediment and poor habit, NCDOT, in informal consultation with USFWS concluded this project May Effect, but is Not Likely to Adversely Affect the Carolina heelsplitter. NCDOT is in receipt of a letter dated June 11, 2007 from FWS concurring with those findings. A copy of this letter is attached to this application.

**Table 1.** Federally Protected Species for Union County.

Common Name	Scientific Name	Survey Notes	Last Survey	Biological Conclusion
Carolina heelsplitter	<i>Lasmigona decorata</i>	Habitat Present	7/14/2005	MANLTAA
Michaux's sumac	<i>Rhus michauxii</i>	Habitat Present	10/30/2006	No Effect
Schweinitz's sunflower	<i>Helianthus schweinitzii</i>	Habitat Present	10/30/2006	No Effect

MENLTAA= May Effect, Not Likely to Adversely Affect.

All species for Union County are classified as "Endangered."

**AVOIDANCE, MINIMIZATION AND MITIGATION**

Avoidance and Minimization:

Avoidance examines all appropriate and practicable possibilities of averting impacts to "Waters of the United States." The NCDOT is committed to incorporating all reasonable and practicable design features to avoid and minimize jurisdictional impact. In addition, Best Management Practices will be followed as outlined in "NCDOT's Best Management Practices for Construction and Maintenance Activities".

- Traffic will be maintained on an off site detour eliminating the need for construction of a temporary on-site detour.
- Water will not be directly discharged into Waxhaw Creek via deck drains.
- The new bridge will be longer, allowing for better hydraulic connectivity for Waxhaw Creek.
- Design Standards for Sensitive Waters will apply to this project.

Mitigation:

NC DOT proposes no mitigation for the <0.01 acre of wetland impact due to the minimal amount of impact.

**PROJECT SCHEDULE**

The project schedule calls for a September 16, 2008 let date, and a review date of July 29, 2008.

**REGULATORY APPROVALS**

Section 404 Permit:

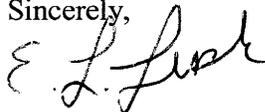
It is anticipated that the permanent impacts to the wetland adjacent to Waxhaw Creek will be authorized under Section 404 Nationwide Permit 23. We are, therefore, requesting the issuance of a Nationwide Permit 23.

Section 401 Permit:

We anticipate 401 General Certification number 3701 will apply to this project. All conditions of the General Certification will be adhered to, therefore we are not requesting concurrence from NCDWQ. In accordance with 15A NCAC 2H .0501(a) we are providing two copies of this application to the North Carolina Department of Environmental and Natural Resources, Division of Water Quality for their records.

Thank you for your assistance with this project. If you have any questions or need additional information, please contact Michael Turchy at [maturchy@dot.state.nc.us](mailto:maturchy@dot.state.nc.us) or (919) 715-1468.

Sincerely,

  
for

Gregory J. Thorpe, Ph.D., Environmental Management Director  
Project Development and Environmental Analysis Branch

cc:

W/ attachment

Mr. Brian Wrenn, NCDWQ, 2 Copies  
Ms. Marella Buncick, USFWS  
Ms. Marla Chambers, NCWRC

Cc:

W/ Electronic Attachment (via website)

Mr. Jay Bennett, P.E., Roadway Design  
Mr. Majed Alghandour, P. E., Programming and TIP  
Mr. Art McMillan, P.E., Highway Design  
Mr. Scott McLendon, USACE, Wilmington  
Dr. David Chang, P.E., Hydraulics  
Mr. Greg Perfetti, P.E., Structure Design  
Mr. Victor Barbour, P.E., Project Services Unit  
Mr. Mark Staley, Roadside Environmental  
Mr. Barry Moose, PE, Division Engineer  
Mr. Larry Thompson, DEO  
Mr. John Williams, Project Planning Engineer



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Asheville Field Office  
160 Zillicoa Street  
Asheville, North Carolina 28801

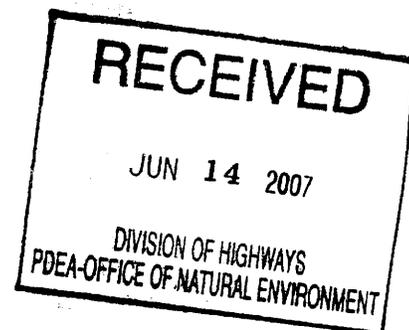
June 11, 2007

RECEIVED  
Division of

JUN 14 2007

Project Development and  
Environmental Analysis Branch

Dr. Gregory J. Thorpe, Manager  
Project Development and Environmental Analysis Branch  
North Carolina Department of Transportation  
1548 Mail Service Center  
Raleigh, North Carolina 27699-1548



Dear Dr. Thorpe:

Subject: Endangered Species Concurrence for the Replacement of Bridge No. 377 on SR 1103 over Waxhaw Creek, Union County, North Carolina (TIP No. B-4649)

As requested by the North Carolina Department of Transportation (NCDOT), we have reviewed the permit request and biological conclusions for federally protected species for the subject project. Our comments are provided in accordance with the provisions of section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543) (Act).

The NCDOT is proposing to replace the existing 41-foot-long timber bridge with a 95-foot-long concrete box-beam bridge that spans the creek and eliminates direct deck drain discharge to the creek. The old bridge will be demolished by removing the superstructure and by cutting the timber piles and vertical abutments off at the normal water surface.

Waxhaw Creek supports one of seven populations of the federally endangered Carolina heelsplitter (*Lasmigona decorata*), and the proposed project area is in federally designated critical habitat for the species. The project area was last surveyed in July of 2005 to determine if the Carolina heelsplitter was present there. Previous surveys as well as the latest surveys found few native freshwater mussels in the project area, and no heelsplitters or their shells were found.

Given the negative survey data and poor habitat conditions in the project area and provided the commitments agreed to at the November 7, 2006, field meeting (meeting notes dated December 5, 2006) are strictly adhered to, we concur with a conclusion that implementation of this project is "not likely to adversely affect" the Carolina heelsplitter in the project area. In view of this, we believe the requirements under section 7(c) of the Act are fulfilled. However, obligations under section 7 of the Act must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not

previously considered, (2) this action is subsequently modified in a manner that was not considered in this review, or (3) a new species is listed or critical habitat is determined that may be affected by the identified action.

If you have questions about these comments, please contact Ms. Marella Buncick of our staff at 828/258-3939, Ext. 237. In any future correspondence concerning this project, please reference our Log No. 4-2-07-227.

Sincerely,



Brian P. Cole  
Field Supervisor

cc:

Mr. Chris Militscher, c/o Federal Highway Administration, U.S. Environmental Protection Agency, Terry Sanford Federal Courthouse, 310 New Bern Avenue, Room 206, Raleigh, NC 27601

Ms. Polly Lespinasse, Mooresville Regional Office, North Carolina Division of Water Quality, 610 East Center Avenue, Suite 301, Mooresville, NC 28115

Ms. Marla J. Chambers, Western NCDOT Permit Coordinator, North Carolina Wildlife Resources Commission, 12275 Swift Road, Oakboro, NC 28129

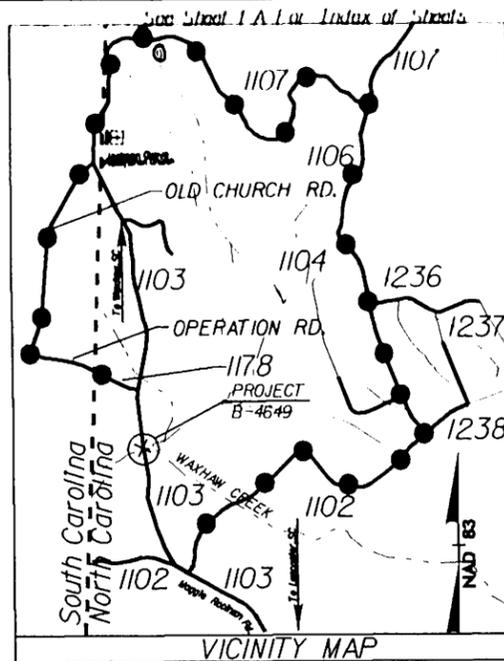
Mr. Steve Lund, Asheville Regulatory Field Office, U.S. Army Corps of Engineers, 151 Patton Avenue, Room 208, Asheville, NC 28801-5006

Permit Drawing  
Sheet 7 of 7

09/08/99

TIP PROJECT: B-4649

CONTRACT: C201930



OFFSITE DETOUR ●●●●●●●●●●

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**UNION COUNTY**

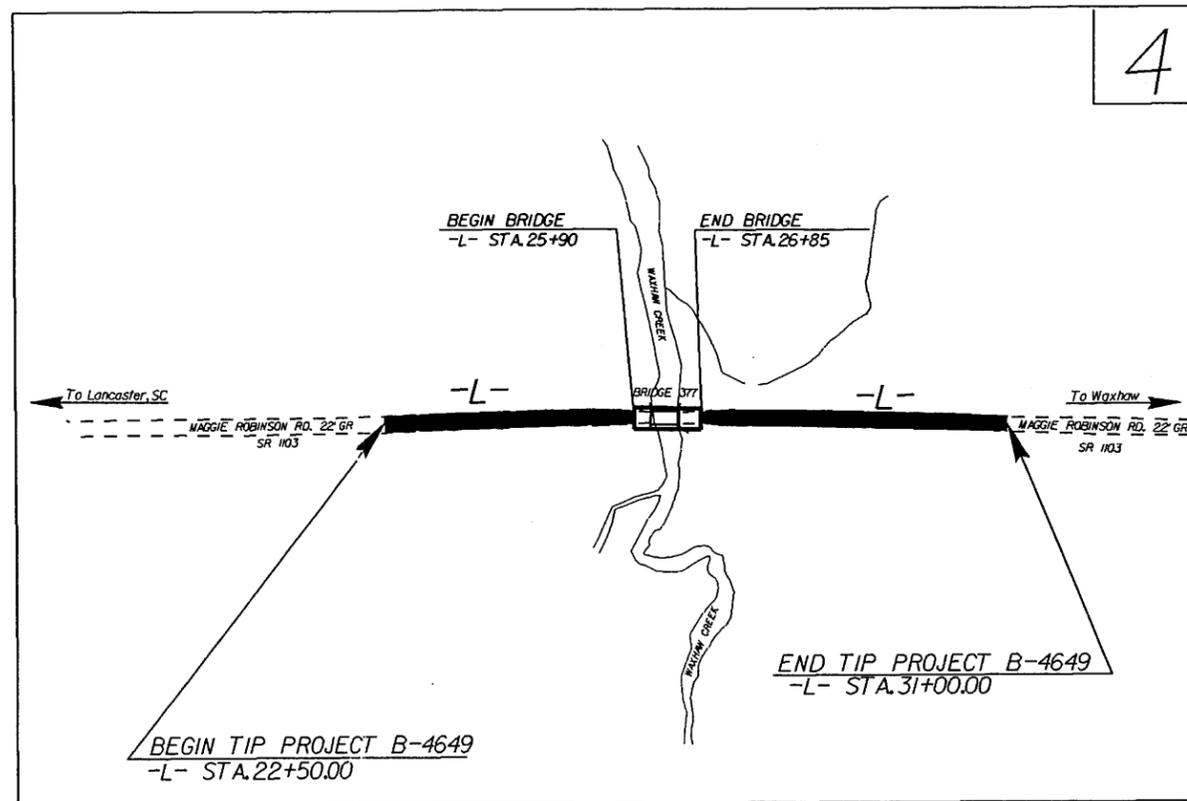
**LOCATION: BRIDGE NO. 377 ON SR 1103  
(MAGGIE ROBINSON ROAD)  
OVER WAXHAW CREEK**

**TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND  
STRUCTURE**

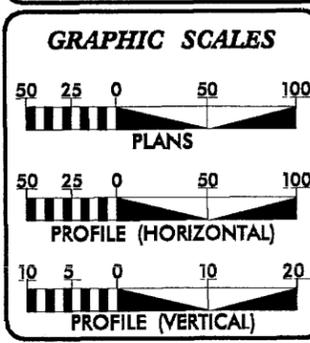
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N.C.	B-4649	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33815.1.1	BRZ-1103(16)	P.E.	
33815.2.1	BRZ-1103(16)	R/W UTIL.	



**WETLAND/SURFACE WATER PERMIT DRAWINGS**



\*\*DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVE



**DESIGN DATA**

ADT 2005 =	100
ADT 2030 =	200
DHV =	60 %
D =	10 %
T =	3 %*
V =	60 MPH**
FUNC CLASS =	RURAL LOCAL
* TTST 1%	DUAL 2%

**PROJECT LENGTH**

LENGTH OF ROADWAY TIP PROJECT B-4649	=	0.143 MILES
LENGTH OF STRUCTURE TIP PROJECT B-4649	=	0.018 MILES
TOTAL LENGTH OF TIP PROJECT B-4649	=	0.161 MILES

Prepared in the Office of:  
**DIVISION OF HIGHWAYS**  
1000 Birch Ridge Dr., Raleigh NC, 27610

2006 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: SEPTEMBER 7, 2007	<b>G.E. BREW, PE</b> PROJECT ENGINEER
LETTING DATE: SEPTEMBER 16, 2008	<b>D. WILLIAMS</b> PROJECT DESIGN ENGINEER

**HYDRAULICS ENGINEER**

\_\_\_\_\_  
SIGNATURE P.E.

**ROADWAY DESIGN ENGINEER**

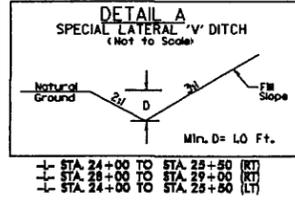
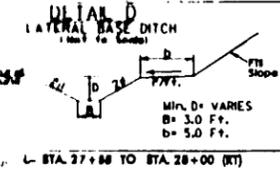
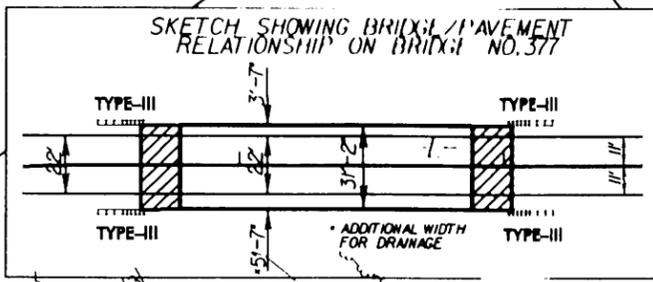
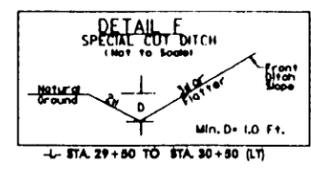
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**DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA**

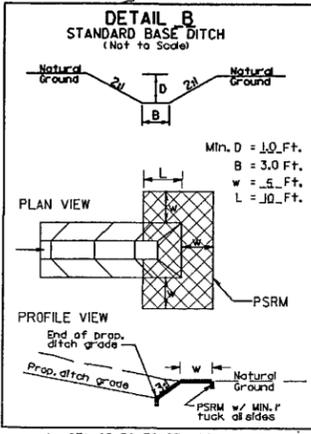
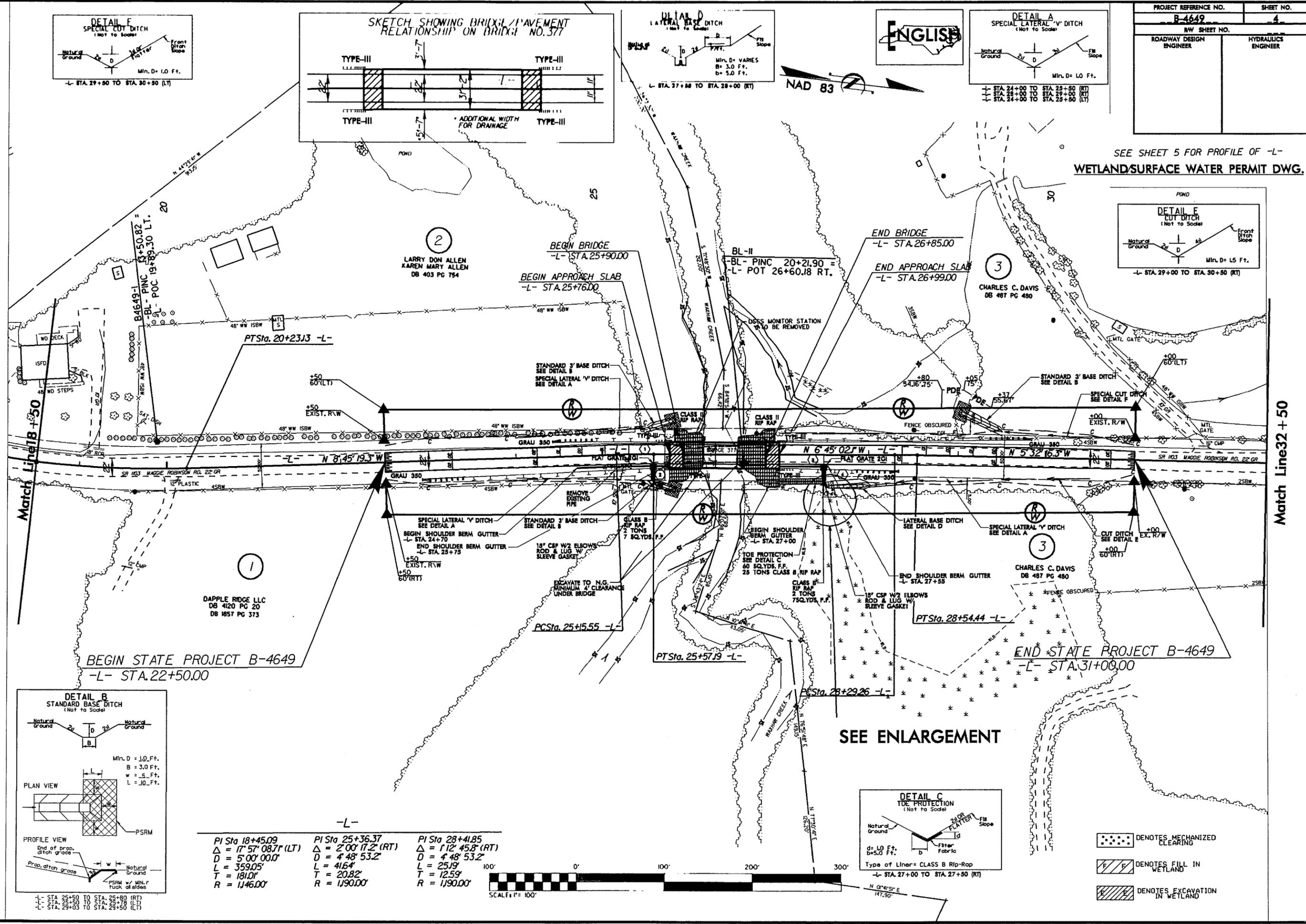
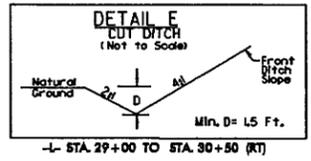
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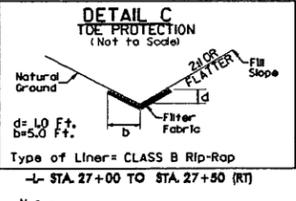
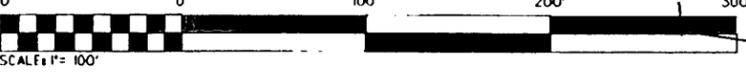
PROJECT REFERENCE NO.	SHEET NO.
B-4649	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



SEE SHEET 5 FOR PROFILE OF -L- WETLAND/SURFACE WATER PERMIT DWG.



<p>PI Sta 18+45.09 Δ = 17° 57' 08.7" (LT) D = 5' 00' 00" L = 359.05' T = 181.01' R = 1,146.00'</p>	<p>PI Sta 25+36.37 Δ = 2° 00' 17.2" (RT) D = 4' 48' 53.2" L = 416.4' T = 20.82' R = 1,190.00'</p>	<p>PI Sta 28+41.85 Δ = 1° 12' 45.8" (RT) D = 4' 48' 53.2" L = 251.9' T = 12.59' R = 1,190.00'</p>
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- DENOTES MECHANIZED CLEARING
- DENOTES FILL IN WETLAND
- DENOTES EXCAVATION IN WETLAND

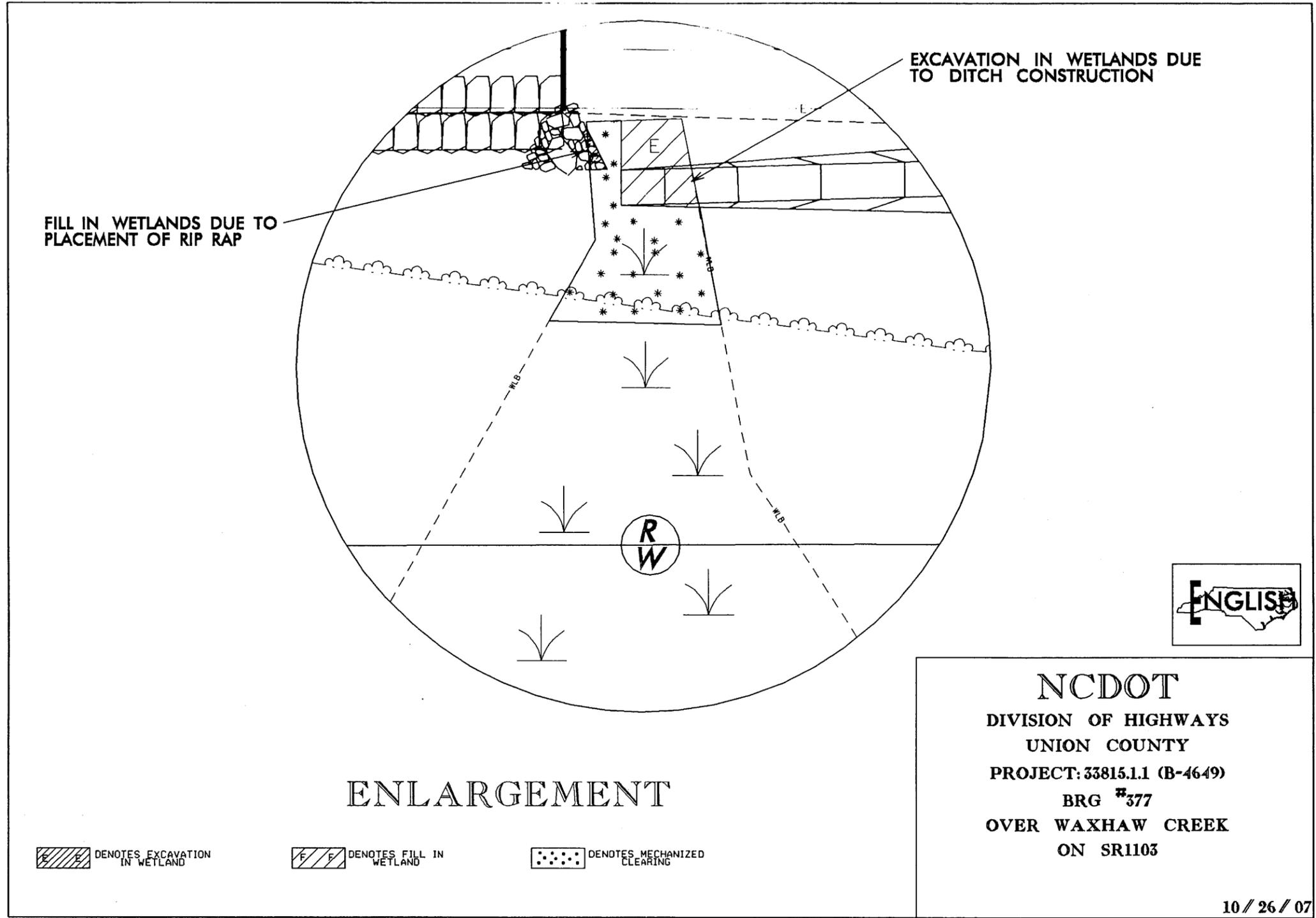
SEE ENLARGEMENT

REVISIONS

Match Line 18 + 50

Match Line 32 + 50





FILL IN WETLANDS DUE TO  
PLACEMENT OF RIP RAP

EXCAVATION IN WETLANDS DUE  
TO DITCH CONSTRUCTION

### ENLARGEMENT

- DENOTES EXCAVATION IN WETLAND
- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING



**NCDOT**  
DIVISION OF HIGHWAYS  
UNION COUNTY  
PROJECT: 33815.1.1 (B-4649)  
BRG #377  
OVER WAXHAW CREEK  
ON SR1103

10 / 26 / 07

Permit Drawing  
Sheet 5 of 7

5/14/99

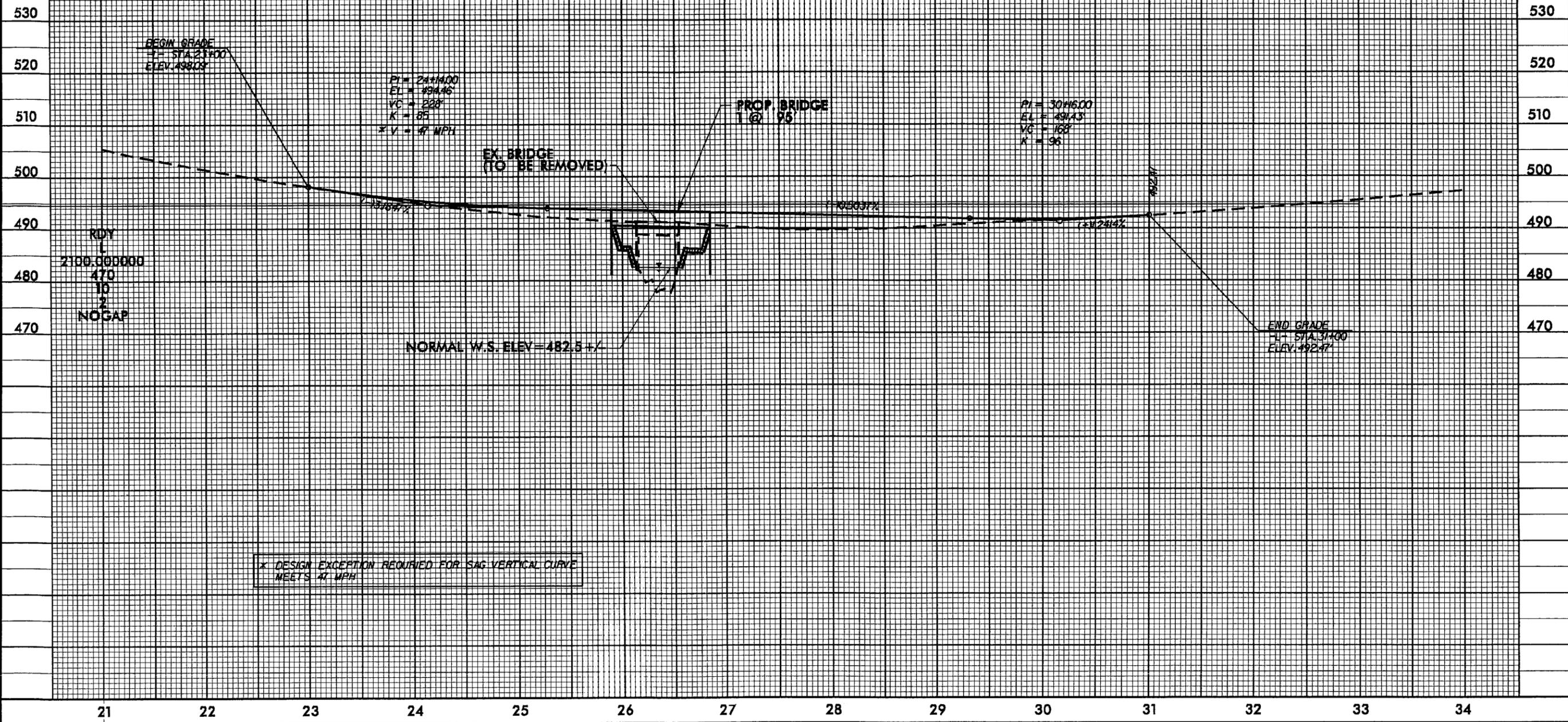
PROJECT REFERENCE NO. B-4649	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR A/W ACQUISITION	
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

HW 45 -L- STA 19+43 38' LEFT, ELEV. 481.60'

# WETLAND SURFACE WATER PERMIT DWG.

## -L-

SEE SHEETS 4 FOR PLAN OF -L-



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F:\hyd\aulics\B-4649\21\21.dwg  
A:\112\21.dwg

**WETLAND PERMIT IMPACT SUMMARY**

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS						SURFACE WATER IMPACTS								
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)					
	-L- 27+56 (RT)		<0.01		<0.01	<0.01											
<b>TOTALS:</b>			<0.01		<0.01	<0.01											

Permit Drawing  
Sheet 6 of 7

NC DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
  
UNION COUNTY  
WBS - 33815.1.1 (B-4649)



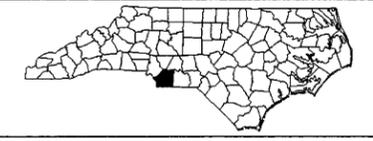
# Property Owner Contact Report

TIP # B-4649

Owner Last Name/ Business	Owner First Name	Address	City/Town	State	Zip Code	Contact/ Relationship	Home Phone	Contacted By	Contact Date	How Contacted	Comments
Allen	Larry Don & Karen Mary	9212 Maggie Robinson Road	Waxhaw	NC	28173				4-22-05	Letter	
Aoyagi	Harry K. & Mary Ann	9011 Maggie Robinson Road	Waxhaw	NC	28173				4-22-05	Letter	
Bass, Jr.	John E. & Barbara L	9224 Maggie Robinson Road	Waxhaw	NC	28173				4-22-05	Letter	
Davis	Charles C.	P.O. Box 184	Waxhaw	NC	28173				4-22-05	Letter	
Georges	William P. & Ann C.	3140 Carmel Road	Charlotte	NC	28226				4-22-05	Letter	
Gore	Jeffrey S. & Elizabeth E.	1667 Scotland Avenue	Charlotte	NC	28207				4-22-05	Letter	
Jackson	Richard H. & Bonnie P.	9012 Maggie Robinson Road	Waxhaw	NC	28173				4-22-05	Letter	
Wall	James O. & Ruth E.	P.O. Box 3251	Monroe	NC	28111				4-22-05	Letter	@ 142 Triple C
Wolfe	David L	9304 Maggie Robinson Road	Waxhaw	NC	28173				4-22-05	Letter	

Permit Drawing  
Sheet 7 of 7

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4649	1	
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
33815.1.1	BRZ-1103(16)	P.E.	
33815.2.1	BRZ-1103(16)	R/W,UTIL	

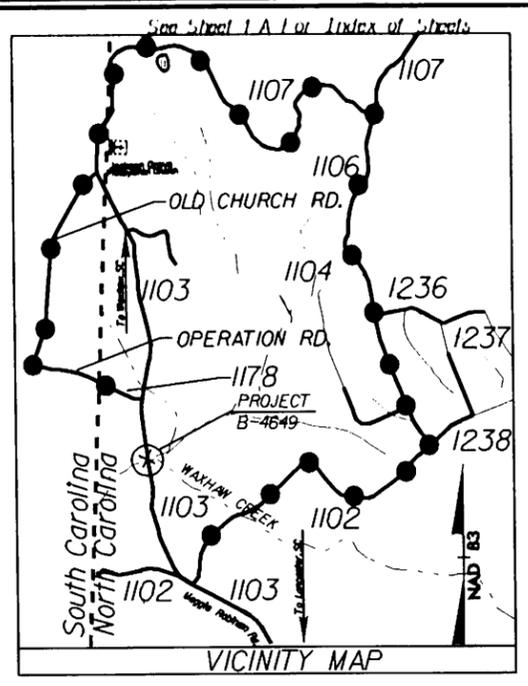


STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

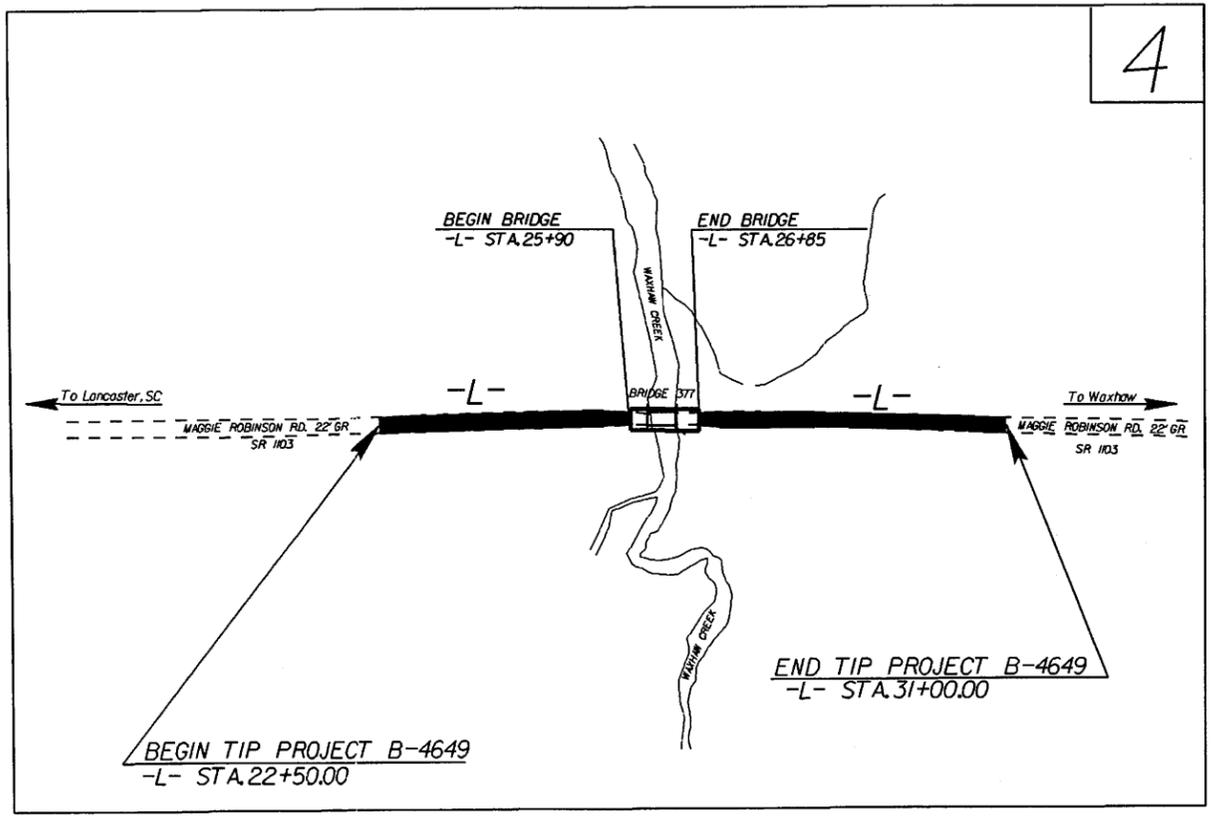
# UNION COUNTY

**LOCATION: BRIDGE NO. 377 ON SR 1103  
(MAGGIE ROBINSON ROAD)  
OVER WAXHAW CREEK**

**TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND  
STRUCTURE**



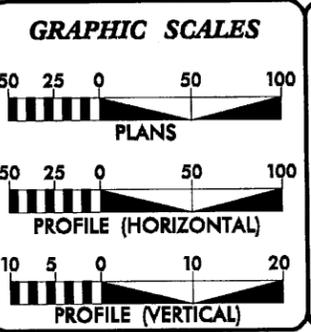
OFFSITE DETOUR ●●●●●●●●●●



\*\*DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVE

**TIP PROJECT: B-4649**

**CONTRACT: C201930**



**DESIGN DATA**

ADT 2005 =	100
ADT 2030 =	200
DHV =	60 %
D =	10 %
T =	3 %*
V =	60 MPH**
FUNC CLASS =	RURAL LOCAL
* TTST 1%	DUAL 2%

**PROJECT LENGTH**

LENGTH OF ROADWAY TIP PROJECT B-4649	=	0.143 MILES
LENGTH OF STRUCTURE TIP PROJECT B-4649	=	0.018 MILES
TOTAL LENGTH OF TIP PROJECT B-4649	=	0.161 MILES

Prepared in the Office of:  
**DIVISION OF HIGHWAYS**  
1000 Birch Ridge Dr., Raleigh NC, 27610

2006 STANDARD SPECIFICATIONS

**RIGHT OF WAY DATE:**  
SEPTEMBER 7, 2007

**LETTING DATE:**  
SEPTEMBER 16, 2008

**G.E. BREW, PE**  
PROJECT ENGINEER

**D. WILLIAMS**  
PROJECT DESIGN ENGINEER

**HYDRAULICS ENGINEER**

SIGNATURE: \_\_\_\_\_ P.E.

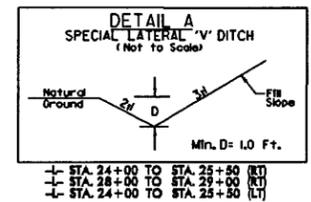
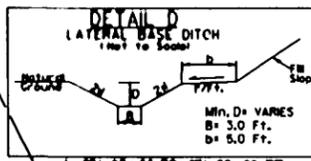
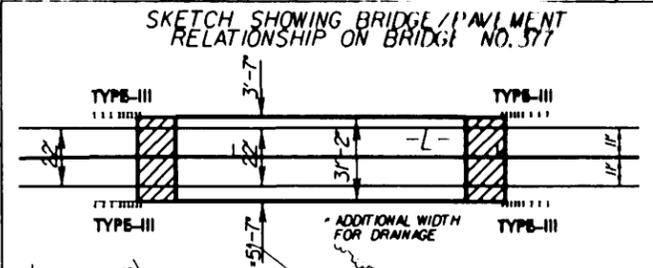
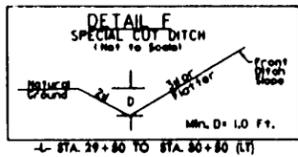
**ROADWAY DESIGN ENGINEER**

SIGNATURE: \_\_\_\_\_ P.E.

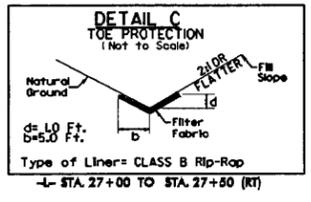
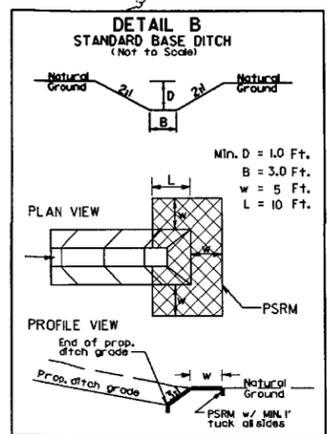
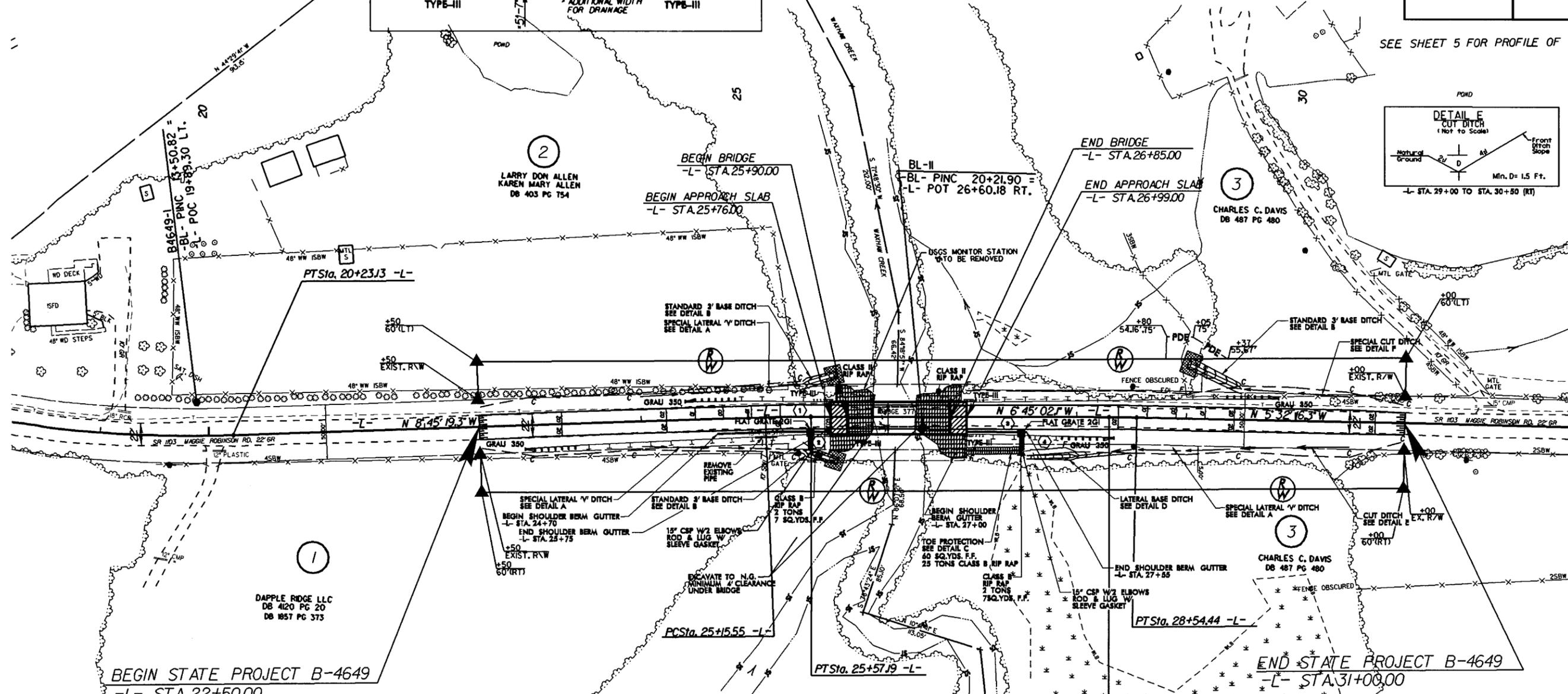
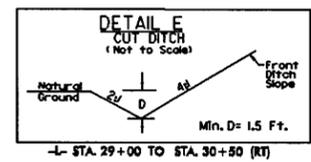
**DIVISION OF HIGHWAYS**  
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER P.E.

01-NOV-2007 09:56 r:\p02\highway\proj\01-b-4649\_rdy\_rdy.fsh.dgn \$\$\$USERNAME\$\$\$



SEE SHEET 5 FOR PROFILE OF -L-



Station	Delta	D	L	T	R
PI Sta 18+45.09	Δ = 17' 57" 08.7" (LT)	D = 5' 00" 00.0"	L = 359.05'	T = 181.0'	R = 1146.00'
PI Sta 25+36.37	Δ = 2' 00" 17.2" (RT)	D = 4' 48" 53.2"	L = 416.4'	T = 20.82'	R = 1190.00'
PI Sta 28+41.85	Δ = 1' 12" 45.8" (RT)	D = 4' 48" 53.2"	L = 251.9'	T = 12.59'	R = 1190.00'

31-OCT-2007 15:31 b-4649\_r.dwg path4.dgn

5/14/99

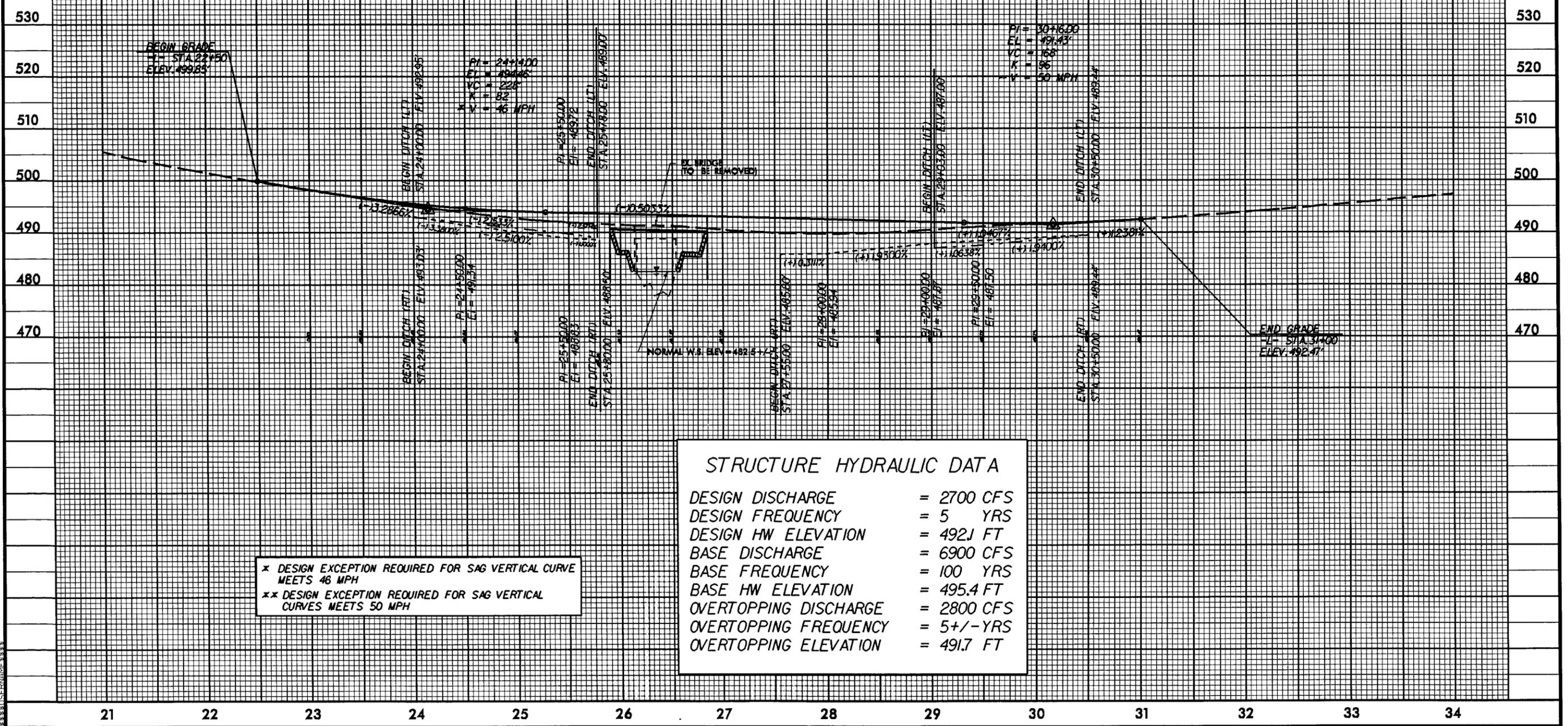
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PROJECT REFERENCE NO. B-4649	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

BR #2 -L- STA 19+43 20' LEFT, ELEV. 491.60'

SEE SHEETS 4 FOR PLAN OF -L-

-L-



\* DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVE MEETS 46 MPH  
 \*\* DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVES MEETS 50 MPH

STRUCTURE HYDRAULIC DATA	
DESIGN DISCHARGE	= 2700 CFS
DESIGN FREQUENCY	= 5 YRS
DESIGN HW ELEVATION	= 492.1 FT
BASE DISCHARGE	= 6900 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 495.4 FT
OVERTOPPING DISCHARGE	= 2800 CFS
OVERTOPPING FREQUENCY	= 5+/- YRS
OVERTOPPING ELEVATION	= 491.7 FT

8/23/59

